Connie Mouw 1-24-07
HC 39 Box 30
Otter MT 59062
1-406-784-2485

SENATE NATURAL RESOURCES
EXHIBIT NO. 10
DATE 1-24-07
BILL NO. SB 223

1-24-07

WORKING TOWARD RESOLUTION - Ideas - Billings Chamber of Commerce Meeting, Billings, MT 10-05-06

PERMITTING:

- Define permitting for impoundments of produced CBNG water.
  - On channel.
  - Off channel.
  - Other.
- Clarification of the "Water Marketing Agreement" permit.

STATE WATER STORAGE POLICY:

- Legislation to promote water storage in Montana of produced CBNG water through off and on channel impoundments, lagoons, injection, re-injection or any other method appropriate to keep water in the state.
- Change language and perception of produced water from a "waste product needing disposal" to "water harvesting and storage".

- WATER QUALITY STANDARDS:
- Legislature to define water quality standards on site-specific criteria.
- Propose setting up "Water Quality Schedules" for produced CBNG water.
  Apply "schedules" of water like drugs have schedules.
- Changes to all water quality standards must be based on documented, reproducible, scientific and technical information and application.

BENEFICIAL USE and WATER APPROPRIATIONS:

- Landowner must have first option for beneficial use of produced CBNG water as they see fit.
- Final decisions regarding water management will be at the landowner's discretion and permission.
- Emergency drought relief allowing landowners beneficial use of CBNG produced water.
  Permitting to be expedited in such cases.

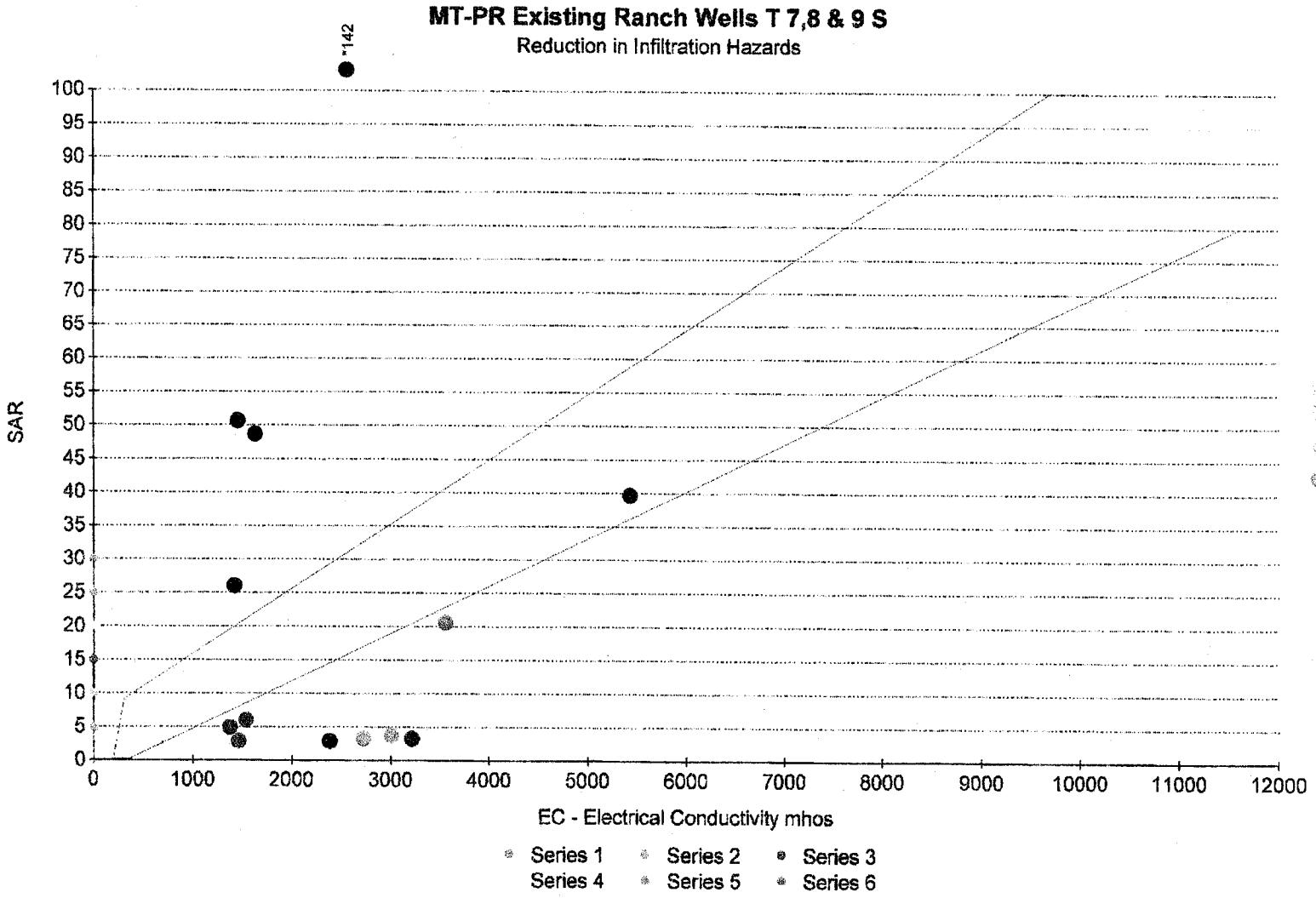
REGULATORY:

- Addition of hydrologic expert to MBOGC for Coal-bed Methane development.
- Appropriate funds for hydrologic expertise - perhaps from production tax. (0.26% received by MBOGC of the 9.26% "working interest's" share. Say, 0.1%. Funding to cover salary, benefits and expenses for hydrologic services incurred by the MBOGC).
- Put re-injection for Class II wells under MBOGC authority instead of EPA UIC control. (WY BOGC has this.)
- CBNG "Task Force" under MBOGC with cross-section of expertise- Hydrology, Geology, Agronomy, Petroleum Engineer, Economics, Regulatory (DEQ, DNRC, BLM/FS, BM&G and 1 public member.)
- Gubernatorial authority to veto or over-ride BER decisions.
- OR Make BER an actual "review" board without rule making authority.
  Rule making to return to agencies with the BER "reviewing" agency decisions.
- Support re-districting of Montana in the appellate court system from the Ninth Circuit. There is currently Congressional consideration for splitting the Ninth Circuit. Many eastern Montanans oppose Montana appeal decisions being made by a judge in San Francisco who knows very little about the area.

Submitted by Connie Morris, HC 39 Box 30 Otter, MT 59062. Board Member and Executive Secretary of Citizens For Resource Development (CFRD), a Montana Non-Profit Org. POB 565 Broadus, MT 59317 406-784-2485

1-24-07

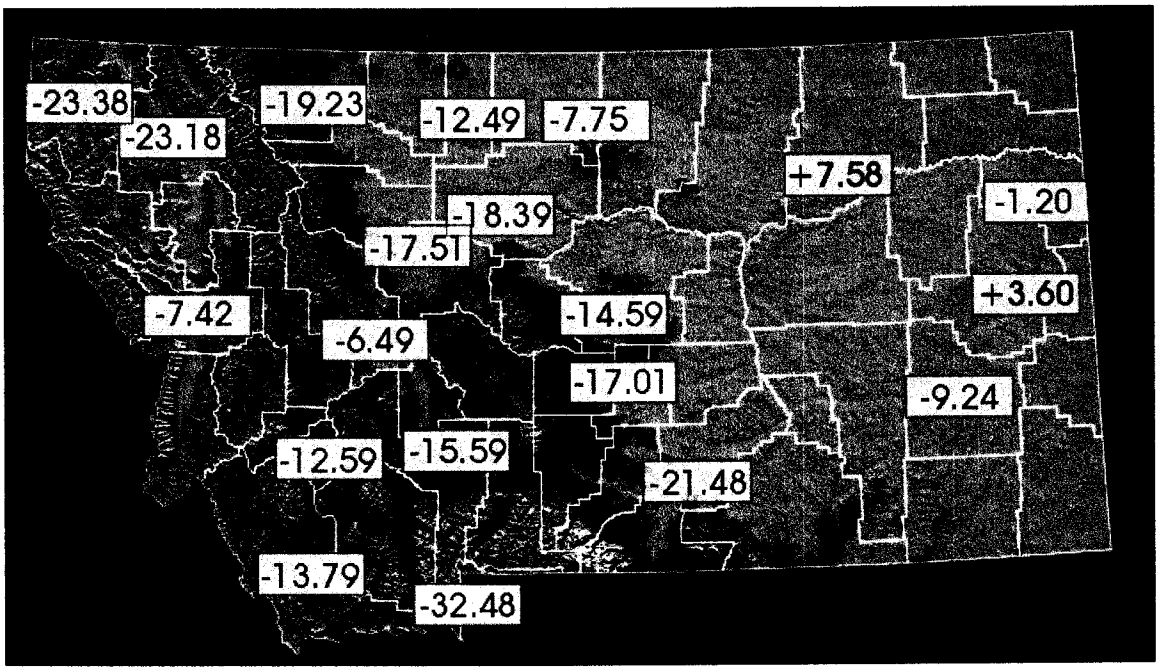
THERE ARE VERY FEW EXISTING WATER SOURCES IN USE IN P.R. Co. THAT WOULD BE IN COMPLIANCE WITH THE NUMERIC STANDARDS FOR THE TRIBUTARIES



SOME OF THE WATER THE EB RANCH USES IS OFF OF COAL SEAMS LIKE CBNG WATER AND THEY USE IT. EASTERN MT WAS SETTLED ON WATER OFF OF COAL SEAMS. WE WANT THE WATER, WE NEED THE WATER. IT SHOULD NOT BE USED AS A PAWN!

THE EB RANCH HAS USES THIS WATER ON THEIR RANCH TO RAISE LIVESTOCK AND GROW CROPS WITH NO ILL EFFECTS- THIS YEAR THERE WASN'T ENOUGH WATER IN THE POWDER RIVER TO START THEIR IRRIGATION PUMPS. THEY COULD USE PRODUCED WATER. WHY IS THE STATE WORKING AGAINST ITS PEOPLE?

WE WANT THE WATER, WE NEED THE WATER!



Precipitation Shortages in inches over the last 5 years.
The map courtesy of the National Weather Service in Great Falls, MT, Drought Information site, 10-01-06.

The Montana portion of the Powder River Basin contains approximately 8000 square miles or 5.12 million acres.

Our area is roughly 9.25 inches short of precipitation over this time period. This amounts to three-quarters of an acre-foot per acre in the 5 year span. This amounts to 3,942,400 ACRE FEET of water short in the Montana side of the basin. That's 1.285 TRILLION GALLONS SHORT or **50 Tongue River Reservoirs** at total capacity (79,100 AF). Remember the MT side of the Powder River Basin is just 5% of Montana's total area (8000 sq. mi. PRB/149,500 sq. mi. in MT).

- The Tongue River hit a record low flow of 12 cfs (state line) this summer; historic is 44cfs.
- John Wheaton, MBMG, estimates the total water from all projected wells in Montana will produced 80,000 acre feet per year or roughly the capacity of the Tongue River Reservoir (we are short 50, see above).
- The 80,000 acre feet/year above breaks down to 5.9 DROPS/sq. ft./day. See "How to Eat an Elephant"- attached.
- WE NEED THE WATER and must do everything we can to keep the water in Montana.

More Water Comparisons:

- Tongue River average daily flow 226,800,000 gal/day - USGS Historical Data.
- Decker Coal Mine 4,690,000 gallons/day mean discharge into Tongue River Reservoir or 2.1% of avg. daily flow of the Tongue River.
  EC Average: 2522 - SAR Average: 5.3 - MTDEQ Permit Fact Sheet - MT0000892.
- Fidelity Permitted Water discharge (treated and untreated - 2 permits) 5,868,000 gpd or 2.6% of avg. daily flow of the Tongue River. Water quality at the state line is not changed (USGS Monitoring site). And many of the ranchers in the Decker area would use this water on their land if allowed to do so. We NEED THE WATER.

HOW TO EAT AN ELEPHANT 10-05-06

Water quantity is another issue that plagues CBNG development and production with projections of astronomical figures that dominate the news media and boggles the average person's mind. While it is easy to conclude that water quantity is unfathomable by these numbers, this issue must be put into perspective. You don't try to swallow an elephant in one gulp. It's much easier if it's done one bite at a time. Once the numbers are put into a per square foot per year amount, it makes it understandable why the rivers aren't raging with torrents of CBNG water and why the quality of the rivers have yet to show a detrimental effect from the discharges to date (USGS State line near Decker, MT).
The Wheaton Report to the BER states "the Montana Environmental Impact Statement (U. S. Bureau of Land Management, 2003, page 4-61) estimate[s] a maximum water production rate of 3.4 billion cubic feet (80,000 acre feet) per year, or about 48,000 gpm."
3.4 BILLION CUBIC FEET/YEAR!? That sounds horrendous, but let's break it down to bite-sized pieces.

3.4 Billion cubic feet/year
X 7.5 Gallons/cubic foot
25.5 Billion gallons/year. Divided by the total square miles in the Montana portion of the Powder River Basin, approximated at 8000 square miles.
25.5 divided by 8000 = 0.0031875 Billion-gallons/year/square mile.
0.0031875 Billion-gallons/year/square mile
X 1,000,000,000 gallons
3,187,500 Million-gallons/year/square mile.
Divided by 365 Days/year
8733 Gallons/day/square mile.
Divided by 640 Acres/square mile.
13.65 Gallons/Acre/Day of produced water.
Divided by 43,560 Square feet/Acre.
0.0003133 Gallons/square foot/day of produced water.
X 3780 milliliters/Gallon
1.18 mls/square foot/day of produced water.
X 5 Drops/ml
5.9 DROPS PER SQUARE FOOT PER DAY.
Now, can you see that the only way to eat an elephant is one bite at a time? One cc or ml is comprehendible on a square foot of anything. Maybe that is how they should conduct a study. Plots of one square foot, with 6 drops of water added daily. That would get the costs of some of these grant proposals down to conservative levels. Of course, the water is concentrated into areas, ***but it is manageable***.
So, the problem lies in the politics of managing the areas of concentration. There are a few people that don't want any of the water, but the majority does. And for the majority to be told what they can and can't do on their own private property lays the crux of the problem, especially when they NEED the water.

Connie Morris
HC 39 Box 30
Otter, MT 59062

Economic Impact of an Average Well in the Powder River Basin.

As of September, 2005

Average production of a CBNG well in the Powder River Basin is 80 thousand cubic feet per day. The price of natural gas on September 16, 2005 was $9.00. One CBNG well can therefore generate $720/day and $262,800/year. On the basis of HB 790, which was passed in the 2005 legislature, the taxes, which were figured on the numbers above, would be distributed as follows:**

9.26% Production Tax (working interest)---------- $24,335.28/year

0.26% MT. Board of Oil and Gas Com. for admin.---------- $63.27

*60.9% to the county where the well is located---------- $14,820.19
- 3.96% Elementary Retirement---------- $586.88
- 2.97% High School Retirement---------- $440.16
- 4.57% County Roads---------- $677.28
- 22.25% School Districts---------- $3,297.49
- Balance to County---------- $9,818.38

The remainder is divided accordingly to the State---------- $9,451.82/year

1.23% to Coalbed Natural Gas Protection Account---------- $116.26

2.95% to Reclamation & Development Grant Special Rev. Acct.---- $278.83

2.95% to Orphan Share Account---------- $278.83

2.65% to the Special Revenue Acct. for the University System------ $250.47

The remainder is put into the State General Fund---------- $8527.43/year

Remember this is monies from only ONE producing well. There is no income tax or non-working tax included. Just think what our State and Counties could do with monies from the proposed 5000 wells!!!

(14.8%)

*Varies by county, set by 15-36-332 - Distribution of Taxes to Taxing Units. Powder River County's distribution.

**Compiled by Citizens for Resource Development with information from Enerfax, Fidelity, ALL Consulting, HB 790, & 15-36-332 Distribution of Taxes to Taxing Units.

ESTIMATED ECONOMIC IMPACT to Powder River & Big Horn Counties

Based on the "Economic Impact of an Average Well in the Powder River Basin" data, let's look at how CBNG development of Citizens For Resource Development's (CFRD) area could impact Powder River and Big Horn Counties. For estimation one well per 80 acre spacing will be used. ***Usual practice is to drill 4 to 5 seams per spacing unit.***

ITEM	No. of Acres	SPACING UNITS SIZE: 80 Acres per unit.	TOTAL SPACING UNITS WITH ONE WELL FOR PROJECTION	ESTIMATED REVENUE PER DATA SHEET FOR ONE WELL. COUNTY'S SHARE OF PRODUCTION TAX OF 9.26%	ESTIMATED REVENUE GENERATED FROM CFRD's ACREAGE TO COUNTY
CFRD P.R. Co. acres:	165,038	80	2063	$14,820.00 P.R. Co. 60.9%	$30,574,041.00 per year- P.R. Co.
CFRD Big Horn Co. acres:	81,000	80	1013	$10,963.04 Big Horn Co. 45.05%	$11,105,562.00 Per year- B.H. Co.
TOTAL TO SE MONTANA/YEAR					$41,679,603.00

%	POWDER RIVER COUNTY ALLOCATIONS	AMOUNT
60.9%	County where well is located.	$30,574,041.00
3.96%	Elementary Retirement.	1,210,732.00
2.97%	High School Retirement.	908,049.00
4.57%	County Roads.	1,397,234.00
22.5%	School Districts.	6,879,159.00
	BALANCE TO POWDER RIVER COUNTY	$20,178,867.00

POWDER RIVER COUNTY, MONTANA'S CURRENT BUDGET: $4,785,870.00

%	BIG HORN COUNTY ALLOCATIONS	AMOUNT
45.05%	County where well is located.	$11,105,562.00
3.96%	Elementary Retirement.	439,780.00
2.97%	High School Retirement.	329,835.00
4.57%	County Roads.	507,524.00
22.5%	School Districts.	2,498,751.00
	BALANCE TO BIG HORN COUNTY	$7,329,672.00

THERE ARE OTHER TAXES BESIDES THE PRODUCTION TAX THAT ARE NOT INCLUDED HERE.

MONTANA'S GOVERNMENT IS NOT WORKING IN OUR BEST INTERESTS

7-21-1001. Legislative findings and purpose. (1) The legislature finds that:
(a) it is necessary and desirable as a matter of public policy to:
(i) provide for reasonable certainty, stability, and fairness in the land use planning and regulatory process;
(ii) stimulate economic growth;
(iii) secure the reasonable investment-backed expectations of a landowner; and
(iv) foster cooperation between the public and private sectors in land use planning and regulation;
(b) the ability of a landowner to be certain of the applicable regulations and review procedures upon submitting a complete application for local government approval of a site-specific development plan will preserve the prerogatives and authority of a local government with respect to land use matters;
(c) the establishment of regulatory certainty:
(i) will promote the goals specified in this section in a manner consistent with Article II, sections 3, 17, and 29, of the Montana constitution that guarantee to each person the inalienable right to acquire, possess, and protect property and that recognize the corresponding responsibilities; and
(ii) is a matter of statewide concern.
(2) It is the purpose of this part to:
(a) provide fair standards to protect the rights of a person who submits a development application to a local government while recognizing the public health, safety, and general welfare purposes of development review; and
(b) require a local government to comply with these standards.

75-1-103. Policy. (1) The legislature, recognizing the profound impact of human activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances, recognizing the critical importance of restoring and maintaining environmental quality to the overall welfare and human development, and further recognizing that governmental regulation may unnecessarily restrict the use and enjoyment of private property, declares that it is the continuing policy of the state of Montana, in cooperation with the federal government, local governments, and other concerned public and private organizations, to

Montana Constitution, Article II

DECLARATION OF RIGHTS **Section 3. Inalienable rights. They include the right to... pursuing life's basic necessities, enjoying and defending their lives and liberties, acquiring, possessing and protecting property...in all lawful ways.**

MONTANA'S GOVERNMENT IS NOT WORKING IN OUR BEST INTERESTS

use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which humans and nature can coexist in productive harmony, to recognize the right to use and enjoy private property free of undue government regulation, and to fulfill the social, economic, and other requirements of present and future generations of Montanans.

(2) In order to carry out the policy set forth in parts 1 through 3, it is the continuing responsibility of the state of Montana to use all practicable means consistent with other essential considerations of state policy to improve and coordinate state plans, functions, programs, and resources so that the state may:

(a) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(b) ensure for all Montanans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;

(c) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(d) protect the right to use and enjoy private property free of undue government regulation;

(e) preserve important historic, cultural, and natural aspects of our unique heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;

(f) achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and

(g) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(3) The legislature recognizes that each person is entitled to a healthful environment, that each person is entitled to use and enjoy that person's private property free of undue government regulation, that each person has the right to pursue life's basic necessities, and that each person has a responsibility to contribute to the preservation and enhancement of the environment. The implementation of these rights requires the balancing of the competing interests associated with the rights by the legislature in order to protect the public health, safety, and welfare.

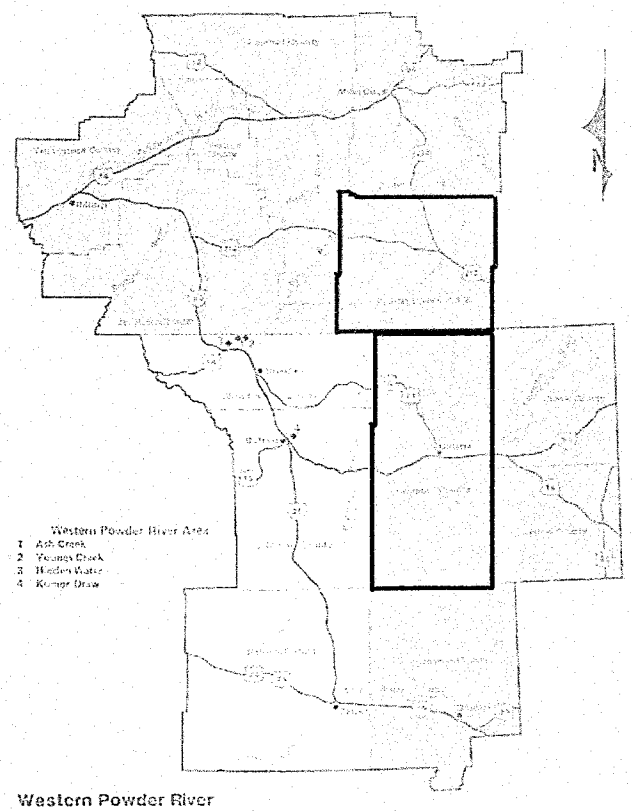
History: En. Sec. 3, Ch. 238, L. 1971; R.C.M. 1947, 69-6503; amd. Sec. 2, Ch. 352, L. 1995; amd. Sec. 6, Ch. 361, L. 2003.

Montana Constitution, Article II

DECLARATION OF RIGHTS **Section 3. Inalienable rights. They include the right to... pursuing life's basic necessities, enjoying and defending their lives and liberties, acquiring, possessing and protecting property...in all lawful ways.**

WE BORDER EACH OTHER YET

WE ARE WORLDS APART!



Western Powder River
Tract Location Map

Powder River County, MT assessed valuation: $7,784,742.00 (millions). 3298 square miles.

Campbell County, WY assessed valuation: $3,660,527,493.00 (billions). 4797 square miles.

MONTANA'S GOVERNMENT IS NOT WORKING IN OUR BEST INTERESTS

"It is the continuing policy of the state of Montana…to foster and promote the general welfare, to create and maintain conditions under which humans and nature can coexist in productive harmony, to recognize the right to use and enjoy private property free of undue government regulation, and to fulfill the social, economic, and other requirements of present and future generations…" MCA 75-1-103.

POWDER RIVER COUNTY IS LIVING IN POVERTY.

OUR TAX BASE HAS DROPPED 95% FROM 1983 VALUES.

COALBED NATURAL GAS DEVELOPMENT COULD REVERSE THIS BUT OUR STATE PREVENTS IT THROUGH A REGULATORY QUAGMIRE.

See Income comparison and taxable valuation charts - next.

Montana Constitution, Article II

DECLARATION OF RIGHTS Section 3. Inalienable rights. They include the right to... pursuing life's basic necessities, enjoying and defending their lives and liberties, acquiring, possessing and protecting property...in all lawful ways.

2006 Fact Sheet

Tongue River Agronomic Monitoring & Protection Program

William M. Schafer, Neal E. Fehringer & Kevin C. Harvey

The Agronomic Monitoring and Protection Program (AMPP) was developed to measure crop yields and monitor key properties of irrigated soils in the Tongue River Drainage. The program was also developed to detect impacts to irrigated agricultural soils due to development of coalbed natural gas (CBNG) in the basin. AMPP was designed by two professional soil scientists and an agronomist from Montana, namely William Schafer, Kevin Harvey, and Neal Fehringer. Fidelity Exploration & Production Company provided funding for the program from 2003 to 2006. During summer and fall of 2003, landowners who irrigated a minimum of 80 acres with Tongue River water were invited to become cooperators in AMPP. Thirteen landowners joined AMPP and continue to participate on a voluntary basis. In total, 14 fields were selected within the TR Drainage, 12 irrigated and 2 dryland, running from the Wyoming Stateline to east of Miles City. Two additional AMPP fields are located in the Yellowstone and Big Horn River Valleys to monitor reference soils and crops outside the Tongue River Basin at the same time.

The AMPP soil and crop testing program has provided agronomic assistance to participants, helped irrigators better understand potential effects of CBNG development on their irrigated fields, and has documented regional trends in irrigated soil characteristics. AMPP consists of three tiers of monitoring and testing, including:

- **Tier 1:** Assesses crop production factors, soil fertility, electrical conductivity (EC) and sodium adsorption ratio (SAR) in selected fields;
- **Tier 2:** Includes key Tier 1 components of EC and SAR along with detailed measurement of exchangeable sodium percentage (ESP), texture, bulk density, soil infiltration rate, clay mineralogy, and soil classification as well as determining crop yields, soil fertility, and forage quality (including sodium content);
- **Tier 3:** Consists of crop and forage test plots employing mixtures of Tongue River water and CBNG production water.

This report contains results of Tier 2 sampling. To date, soil samples have been collected from AMPP sites four times: October 2003, April & October 2004, and October 2005. Forage harvests have occurred prior to each harvest in every field in the 2004 and 2005 growing seasons. The purpose of the program is three-fold: (1) to measure baseline soil characteristics; (2) to identify potential changes in soil chemical and physical properties that could impair future crop yields in subsequent annual monitoring events (and to identify the degree to which changes in soil properties are related to CBNG development); and (3) to monitor any changes in crop yields and sodium content in forages.

AMPP
Agronomic Monitoring and Protection Program

Detailed soil analyses were conducted on **337** samples collected from up to **16** fields over **4** sampling periods in the **Tier 2** AMPP. Statistical analysis showed no adverse changes in soil properties. The soil sampling demonstrated good overall quality of irrigated soils in the Tongue River basin. Key results are summarized below:

- **Crop Yields:** AMPP fields represent a wide variety of cropping systems including alfalfa, grass, hay barley, wheat, sugar beets, and corn. Forage yields (grass, alfalfa, and alfalfa/grass) ranged from 1 to 6 tons/acre. Yields were comparable to average yields from Custer and Rosebud County in 2003 through 2005. Variations in crop yields observed between AMPP fields were not correlated to differences in salinity and/or sodium levels, primary constituents of concern in water produced by CBNG operations. Other factors, especially crop and irrigation management as well as climatic factors, more strongly affected yields. Forage sodium content has not changed during the two growing seasons. No trend exists between plant sodium content and proximity to CBNG water discharge locations. Also, no trend has been detected with sodium content and field location within the drainage. However, sodium content varies between plant species with barley containing the highest and corn the lowest.
- **Irrigated Soil Properties:** Local conventional wisdom holds that Tongue River soils are high in clay and contain a preponderance of swelling clays. Irrigated soils with abundant swelling clays are known to be more susceptible to adverse effects of sodium in irrigation water. Contrary to common beliefs, AMPP results showed that Tongue River soils are not high-clay low in clay, and contain mostly non-swelling clays. Therefore, irrigated Tongue River soils are not highly susceptible to damage by excessive sodium levels.
- **Salinity and Sodium Status of Soils:** Soils monitored in AMPP were non-saline and non-sodic to a depth of 3 feet according to criteria developed by the USDA ARS George E. Brown, Jr. Salinity Laboratory in Riverside, California.
- **Trends in Irrigation Water Quality:** Water quality for 2003 through 2005 met the recently adopted criteria for EC and SAR throughout the entire irrigated reach of the Tongue River from the Wyoming state line to the T&Y Diversion and throughout the T&Y Irrigation District. There were no increases in EC or SAR evident through the monitoring period. Small seasonal and yearly differences in EC and SAR were related to variations in flow, with higher levels occurring during low flow and in drought years. These variations in stream chemistry were observed in the hydrologic record prior to CBNG development and are naturally-occurring.
- **Documented Changes in Soil Properties:** There were no statistically significant changes in pH, EC, or SAR through time in the AMPP soils. ESP levels showed a statistically significant decrease from 2004 to 2005, which may have been due to a greater quantity of rainfall and available irrigation water in 2005 than in previous years.